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HOWARD A SKAIST INTEL CORPORATION
BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD
SEVENTH FLOOR
LOS ANGELES CA 90025-1026

EXAMINER	
VINCENT, D	

ART UNIT	PAPER NUMBER
2661	15

DATE MAILED: 02/12/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)	
	09/061,017	BAKER, SCOTT L.	
	Examiner	Art Unit	
	David R. Vincent	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15)☒ Notice of References Cited (PTO-892)
16)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
18)☐ Interview Summary (PTO-413) Paper No(s). _____ .
19)☐ Notice of Informal Patent Application (PTO-152)
20)☐ Other: .

Prosecution Reopened

The prosecution is reopened to reply to an argument that was not raised in the Appeal Brief, the Amendment nor the After Final Amendment.

The Applicant did not challenge the Examiner's taking of official notice. Therefore the well known statement which was made during examination is taken to be admitted prior art. In re Chevenard, 139 F.2d 71, 60 USPQ 239 (CCPA 1943); also see the MPEP § 2144.03. Rather than traverse the Official Notice or actually ask for a reference for a notoriously well known term (burst) the applicant decided to say that the official notice was traversed (previously) in a Reply Brief, when in fact it was not. The applicant's exact phrase was "Applicant specifically traverses the Examiner's characterization of the term bursts" (paper no. 6/A, page 3). Although the applicant clearly conceded to the point that the term burst was well known but did not like the way it was characterized, the applicant now says that all the applicant wanted was a reference. Meaning now the applicant is not going to argue that the term was not characterized appropriately, because now the applicant only wants to see that the term existed. Therefore, the applicant does not need any response to any argument, only a reference which supports the examiner's official notice.

The Examiner took official notice that when establishing an ATM connection (which runs on fiber optic/SDH lines) using a call admission control (CAC) algorithm the traffic contract is established using what is known as quality of service (QoS). Depending on the type of traffic a user may negotiate the minimum burst rate (MBR) or sustainable burst rate (SCR). In other words, the term burst is notoriously well known and is

used when dealing with variable bit rate (VBR) traffic. See Sackett et al. (ATM & Multiprotocol Networking).

Sackett teaches when establishing an ATM connection (which runs on fiber optic/SDH lines, Sackett: pages 163-168) using a call admission control (CAC) algorithm (Sackett: e.g. pages 196-198, 202) the traffic contract (section 9.2.4, page 198) is established using what is known as quality of service (QoS, Sackett: section 9.2.3, pages 198-9). Depending on the type of traffic a user may negotiate the minimum burst rate (MBR, Sackett: pages 196, 200-3) or sustainable burst rate (SCR, page 196). In other words, the term burst is notoriously well known and is used when dealing with variable bit rate (VBR) traffic (page 200), and ATM with respect to ELANs/VLANs (Sackett: 267-281, especially page 269).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 6-9 and 11-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Afify (US 5,291,485). This rejection is set forth in prior Office action, Paper No. 5. As shown in Figs. 9-10, Afify discloses a method and apparatus for interleaving a data stream (alternating reads

and multiplexing data from two different memories, col. 8, lines 21-58, especially lines 48-58; and also alternating multiplexing header/address information between a data stream, col. 7, lines 54-56; in five possible ways, col. 9, lines 5-20; Interleaving, col. 9, lines 36-60), a plurality of multiplexers (i.e. 126/132, Fig. 9; 194/186, Fig. 10a), a state machine (microprocessor, 114), a bus (serial bus, parallel bus, high speed and low speed buses, col. 1, lines 12-19; col. 3, lines 6-33), a memory/buffer (i.e., 110, Figs. 9/10a), writing a sequence of groupings of bits into a memory (100, 102, Fig. 9), reading and writing from memory (col. 10, lines 50-65), applying selected groupings to a first MUX (126, Fig. 9; reformatter MUX 104, Fig. 9; col. 8, lines 55-58), applying the groupings applied (and passed through) to a second MUX (132, Fig. 9), applying at least one grouping (any grouping from anywhere) to the second MUX between applying groupings from the first MUX to the second MUX (alternating read operation, col. 8, lines 21-58, especially lines 48-58), at least one grouping comprises bits from another data stream (reading from alternating memories 100 and 102, or from MUX 104 as opposed to reading from MUX 126, Fig. 9; col. 10, lines 58-65), and providing data from a bus (Fig. 9 inputs, col. 10, lines 50-55). However, Afify failed to particularly call for the terminology groupings, as specified in

claims 1, 12, and 18; and the memory to be a FIFO buffer, as specified in claims 2, 14, 16.

Regarding claim 1 and the terminology groupings, this reads on bytes, octets, digital words, frames, headers, addresses, etc. Groupings comprising bytes, as specified in claim 3, reads on digital words, frames, headers, addresses, etc. Furthermore, a SONET frame comprises 90 columns/octets/bytes times 9 rows times 8 bits per octet times 8000 bits 125 microseconds slots per second which equals the 51.8 Mbps STS-1 envelope (OC-1 when it is transferred to optical form). It would have been obvious for Afify to use groupings or to specify that, e.g., combinations of 12 bits (col. 8, lines 55-58) are groupings because the term groupings is a more broad term and allows more flexibility. Well known terms of art such as, e.g., packets, bytes, octets, digital words, or frames tend to change with each new technology.

Regarding the term buffer/FIFO, the Examiner took official notice that FIFO buffers (Afify: col. 8, lines 10-20) are notoriously well known and that it is extremely common to use them in this environment (switching, routing, multiplexing, data transmission). Congestion and traffic are commonly gauged by buffer's capacity and the associated queuing that takes place. One reason that buffers are used is to regulate data traffic or

the queue traffic. It would have been obvious to use FIFO buffers since Afify does disclose memory buffering (col. 8, lines 10-17) and because the data read from memories 100 and 102 (Afify Fig. 9) is read continuously (col. 8, lines 51-55; col. 10, lines 59-65) similar to when reading data from FIFOs.

Regarding using the term byte, the Examiner took official notice that byte is a term of art and refers to 8 bits. In coding, e.g., voice, 8 bits multiplied by 8000 samples per second (Nyquist sampling theorem) equals 64 kbps which can also be called a DS-0 line. Furthermore, when talking about, i.e., SONET, or ATM (asynchronous transfer mode, and ATM runs on optical fibers/SONET/SDH), the term octet is used. An octet is also 8 bits.

Regarding claim 5 and the term bursts, the Examiner took official notice that when establishing an ATM connection (which runs on fiber optic/SDH lines) using a call admission control (CAC) algorithm the traffic contract is established using what is known as quality of service (QoS). Depending on the type of traffic a user may negotiate the minimum burst rate (MBR) or sustainable burst rate (SCR). In other words, the term burst is notoriously well known and is used when dealing with variable bit rate (VBR) traffic (now supported with Sackett reference).

Regarding claim 12, the preamble is not given any patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. Kropa v. Robie, 88 USPQ 478 (CCPA 1951). An intended use clause found in the preamble is not afforded the effect of a distinguishing limitation unless the body of the claim sets forth structure which refers back to, is defined by, or otherwise draws life and breath from the preamble. In re Casey, 152 USPQ 235 (CCPA 1967).

Claim Rejections - 35 USC § 103

Claims 4-5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Afify as applied to claim 1 above, and further in view of Dobbins.

However, Afify fails to particularly call for the VLAN tags.

As shown in Figs. 3-4, Dobbins teaches VLAN tags. Therefore it would have been obvious to one of ordinary skill in the art, having both Afify and Dobbins before him/her and with the teachings [a] as shown in Afify, that add-drop MUXes, interfacing with various networks (col. 1, lines 12-19; col. 3,

lines 6-33) and interleaving address/tags with data streams are well known and [b] as shown in Dobbins, that VLAN tags/IDs are also well known, to modify the Networking system of Afify to further include VLANS and the associated tags/IDs because VLANs are more secure than regular Ethernet LANs.

The Applicant argued that Afify is non-analogous art, has nothing to do with interleaving data streams, cannot be considered to be within the field of Applicant's endeavor, and is not reasonably pertinent to the subject matter.

In response, clearly the Applicant invention is related to multiplexing and class 370 is titled "Multiplex Communications". This means that the Applicant claimed invention or patent application should be searched in class 370 and especially in subclasses that deal directly with multiplexing. The applied art of record (Afify) is *currently* classified in class 370 subclass 537 which is titled Multiplexing Plural Input Channels To A Common Output Channel. Therefore, it is clear that Afify is definitely analogous art, especially since both Afify (Fig. 9) and the claimed invention (Fig. 1) are dealing with multiplexing plural streams of data.

Also, since one of ordinary skill in the art would consider multiplexing to be a form of interleaving, Afify clearly has a lot to do with interleaving data streams, is considered to be

within the field of Applicant's endeavor, and is extremely pertinent to the subject matter.

One of ordinary skill in the art could merely look at the Applicant's figure one which calls for multiplexers (MUXes) and compare the figure one to the Applicant's claim one which calls for interleaving using the MUXes. It appears that for the Applicant's argument (that Afify has nothing to do with interleaving) to be valid, the Applicant's own figure one would also have to be said to have nothing to do with interleaving.

In re page 7, the Appellant argues Afify does not apply at least one grouping to a second MUX between applying groupings from the first MUX to the second MUX.

In response, the second MUX (132, Fig. 9) disclosed in Afify has more than two inputs and is interleaving the TXDATA and the OHDATA. Therefore, Afify does apply at least one grouping to a second MUX between applying groupings from the first MUX to the second MUX. Looking at the figures reveals that Afify has a first MUX feeding a second MUX with the second MUX also receiving data from another source (both 104 and 126 read on "the first MUX" since they are both MUXes), just like the Applicant's figure one. Although, the Appellant did not claim the alternate data source coming out of MUX 3 (Fig. 1) clearly. Instead the Appellant used extremely broad language by

specifying "at least one grouping" which means any other grouping from any where.

Regarding pages 8-9, there is no mention of these limitations in the claims and the specification is not the measure of the invention. Therefore, limitations contained therein can not be read into the claims for the purpose of avoiding the prior art; see In re Sprock, 55 CCPA 743, 386 F.d. 924, 155 USPQ 687 (1968).

Furthermore, the Applicant spent a fair amount of text arguing how the applied art (Afify) deals with virtual tributaries and optical networks.

In response, certainly the Applicant must realize that the data being interleaved in Afify is in the electrical form and not the optical form (light pulses) and that the data that the MUXes receive in both Afify and the Applicant claimed invention deal with mere streams of digital ones and zeros. It does not matter whether the data being multiplexed came from a video, audio, or text source. It also does not matter where the source was located at the time of transmitting the data. Whether the data came from a PC connected to an Ethernet LAN, like one might find at the PTO, or whether the data came from some type of telephone line also does not matter. Just because Afify may convert the MUXed data into an optical form before transmitted

it to another location does not mean that Afify's disclosure (Fig. 9) does not meet the claimed invention. Afify has still disclosed interleaving electrical streams of data.

In re page 10, the Applicant argues hindsight reconstruction.

In response, as is well known, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the Applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.d. 1392, 170 USPQ 209 (CCPA 1971).

In re page 12, the Appellant argues motivation.

In response the Examiner has stated to modify the Networking system of Afify to further include VLANS and the associated tags/IDs because VLANs are more secure than regular Ethernet LANs. In other words, Ethernet is a "broadcast" environment and all data can easily be received by destination(s) which the data or frame(s) were not intended to go. By using VLANs the data destinations are controlled by, e.g., a switch which does not "flood" the data as a bridge may do. Afify discloses digital communications and telephony (col.

1). One of ordinary skill would realize that a large proportion of the telephony devices, such as computers (PCs) with sound cards and microphones are actually located in commercial buildings and it is notoriously well known that Ethernet LANs are the most popular form of digital communications inside those buildings. Since VLANs are more secure, one would consider implementing the VLAN tags which go in the Ethernet frames.

It is important to realize that both the Applicant's claimed invention and the Applied art are both concerned with multiplexing digital data streams at the physical layer (of the OSI model).

Conclusion

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David R. Vincent whose telephone number is 703-305-4957. The examiner can normally be reached on Monday-Thursday.

The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-9051 for regular communications and 703-308-9051 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

David R. Vincent 2/8/01
David R. Vincent
Primary Examiner
Art Unit 2661

February 8, 2001